29jun99 09:12:09 User208600 Session D1221.2

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S1 8 ZIPA OR ZIP(W)A

1/7/1 DIALOG(R)File 155:MEDLINE(R) (c) format only 1999 Dialog Corporation. All rts. reserv.
09921324 99157577
Localization of FtsL to the Escherichia coli septal ring.
Ghigo JM; Weiss DS; Chen JC; Yarrow JC; Beckwith J
Unite de Physiologie Cellulaire Institut Pasteur (CNRS URA 1300), Paris, France. jmghigo@pasteur.fr
Mol Microbiol (ENGLAND) Jan 1999, 31 (2) p725-37, ISSN 0950-382X Journal Code: MOM Contract/Grant No.: GM 38922, GM, NIGMS Languages: ENGLISH Document type: JOURNAL ARTICLE
In Escherichia coli, nine gene products are known to be essential for assembly of the division septum. One of these, FtsL, is a bitopic membrane protein whose precise function is not understood. Here we use fluorescence microscopy to study the subcellular localization of FtsL, both in a wild-type strain and in a merodiploid strain that expresses a GFP-FtsL fusion protein. We show that FtsL localizes to the cell septum where it forms a ring analogous to the cytoplasmic FtsZ ring. FtsL localization is dependent upon the function of FtsZ, FtsA and FtsQ, but not FtsI. In a reverse approach, we use fusions of green fluorescent protein (GFP) to FtsZ, FtsA and ZipA to show that these proteins localize to the division site in an FtsL-independent fashion. We propose that FtsL is a relatively late recruit to the ring structure that mediates septation.

1/7/2 DIALOG(R)File 155:MEDLINE(R) (c) format only 1999 Dialog Corporation. All rts. reserv.
09834021 99102215
Septal localization of FtsQ, an essential cell division protein in Escherichia coli.
Chen JC; Weiss DS; Ghigo JM; Beckwith J
Department of Microbiology and Molecular Genetics, Harvard Medical School, Boston, Massachusetts 02115, USA.
J Bacteriol (UNITED STATES) Jan 1999, 181 (2) p521-30, ISSN 0021-9193 Journal Code: HH3 Contract/Grant No.: GM38922, GM, NIGMS Languages: ENGLISH Document type: JOURNAL ARTICLE
Septation in Escherichia coli requires several gene products. One of these, FtsQ, is a simple bitopic membrane protein with a short cytoplasmic N terminus, a membrane-spanning segment, and a periplasmic domain. We have constructed a merodiploid strain that expresses both FtsQ and the fusion protein green fluorescent protein (GFP)-FtsQ from single-copy chromosomal genes. The gfp-ftsQ gene complements a null mutation in ftsQ. Fluorescence microscopy revealed that GFP-FtsQ localizes to the division site. Replacing the cytoplasmic and transmembrane domains of FtsQ with alternative membrane anchors did not prevent the localization of the GFP fusion protein, while replacing the periplasmic domain did, suggesting that the periplasmic domain is necessary and sufficient for septal targeting. GFP-FtsQ localization to the septum depended on the cell division proteins FtsZ and FtsA, which are cytoplasmic, but not on FtsL and FtsI, which are bitopic membrane proteins with comparatively large periplasmic domains. In addition, the septal localization of ZipA apparently did not require functional FtsQ. Our results indicate that FtsQ is an intermediate recruit to the division site.

1/7/3 DIALOG(R)File 155:MEDLINE(R) (c) format only 1999 Dialog Corporation. All rts. reserv.
09825598 99084954
Recruitment of ZipA to the septal ring of Escherichia coli is dependent on FtsZ and independent of FtsA.
Hale CA; de Boer PA
Department of Molecular Biology and Microbiology, School of Medicine, Case Western Reserve University, Cleveland, Ohio 44106-4960, USA.
J Bacteriol (UNITED STATES) Jan 1999, 181 (1) p167-76, ISSN 0021-9193 Journal Code: HH3 Contract/Grant No.: GM-57059, GM, NIGMS; GM-53276, GM, NIGMS Languages: ENGLISH
Document type: JOURNAL ARTICLE
Cell division in prokaryotes is mediated by the septal ring. In Escherichia coli, this organelle consists of several essential division proteins, including FtsZ, FtsA, and ZipA. To gain more insight into how the structure is assembled, we studied the interdependence of FtsZ, FtsA, and ZipA localization using both immunofluorescence and Gfp tagging techniques. To this end, we constructed a set of strains allowing us to determine the cellular location of each of these three proteins in cells from which one of the other two had been specifically depleted. Our results show that ZipA fails to accumulate in a ring shape in the absence of FtsZ. Conversely, depletion of ZipA does not abolish formation of FtsZ rings but leads to a significant reduction in the number of rings per unit of cell mass. In addition, ZipA does not appear to require FtsA for assembly into the septal ring and vice versa. It is suggested that septal ring formation starts by assembly of the FtsZ ring, after which ZipA and FtsA join this structure in a mutually independent fashion through direct interactions with the FtsZ protein.

1/7/4 DIALOG(R)File 155:MEDLINE(R) (c) format only 1999 Dialog Corporation. All rts. reserv.
09619104 98361917
Localization and function of early cell division proteins in filamentous Escherichia coli cells lacking phosphatidylethanolamine.
Mileykovskaya E; Sun Q; Margolin W; Dowhan W
Department of Biochemistry and Molecular Biology, University of Texas-Houston, Medical School, Houston, Texas 77225, USA.
J Bacteriol (UNITED STATES) Aug 1998, 180 (16) p4252-7, ISSN 0021-9193 Journal Code: HH3 Contract/Grant No.: GM 20478, GM, NIGMS Languages: ENGLISH Document type: JOURNAL ARTICLE
Escherichia coli cells that contain the pss-93 null mutation are completely deficient in the major membrane phospholipid phosphatidylethanolamine (PE). Such cells are defective in cell division. To gain insight into how a phospholipid defect could block cytokinesis, we used fluorescence techniques on whole cells to investigate which step of the cell division cycle was affected. Several proteins essential for early steps in cytokinesis, such as FtsZ, ZipA, and FtsA, were able to localize as bands to potential division sites in pss-93 filaments, indicating that the generation and localization of potential division sites was not grossly affected by the absence of PE. However, there was no evidence of constriction at most of these potential division sites. FtsZ and green fluorescent protein (GFP) fusions to FtsZ and ZipA often formed spiral structures in these mutant filaments. This is the first report of spirals formed by wild-type FtsZ expressed at normal levels and by ZipA-GFP. The results suggest that the lack of PE may affect the correct interaction of FtsZ with membrane nucleation sites and alter FtsZ ring structure so as to prevent or delay its constriction.

1/7/5 DIALOG(R)File 155:MEDLINE(R) (c) format only 1999 Dialog Corporation. All rts. reserv.
09105034 97322348
Interaction of protein kinase C zeta with ZIP, a novel protein kinase C-binding protein.
Puls A; Schmidt S; Grawe F; Stabel S
Max-Delbruck-Laboratorium in der Max-Planck-Gesellschaft, Carl-von-Linne- Weg 10, D-50829 Cologne, Germany.
Proc Natl Acad Sci U S A (UNITED STATES) Jun 10 1997, 94 (12) p6191-6, ISSN 0027-8424 Journal Code: PV3 Languages: ENGLISH Document type: JOURNAL ARTICLE
The atypical protein kinase C (PKC) member PKC-zeta has been implicated in several signal transduction pathways regulating differentiation, proliferation or apoptosis of mammalian cells. We report here the identification of a cytoplasmic and membrane-associated protein that we name zeta-interacting protein (ZIP) and that interacts with the regulatory domain of PKC-zeta but not classic PKCs. The structural motifs in ZIP include a recently defined ZZ zinc finger as a potential protein binding

module, two PEST sequences and a novel putative protein binding motif with the consensus sequence YXDEDX5SDEE/D. ZIP binds to the pseudosubstrate region in the regulatory domain of PKC-zeta and is phosphorylated by PKC-zeta in vitro. ZIP dimerizes via the same region that promotes binding to PKC-zeta suggesting a competitive situation between ZIP:ZIP and ZIP:PKC-zeta complexes. In the absence of PKC-zeta proper subcellular localization of ZIP is impaired and we show that intracellular targeting of ZIP is dependent on a balanced interaction with PKC-zeta. Taking into account the recent isolation of ZIP by others in different contexts we propose that ZIP may function as a scaffold protein linking PKC-zeta to protein tyrosine kinases and cytokine receptors.

1/7/6 DIALOG(R)File 155:MEDLINE(R) (c) format only 1999 Dialog Corporation. All rts. reserv.
08937389 97160838
Direct binding of FtsZ to ZipA, an essential component of the septal ring structure that mediates cell division in E. coli.
Hale CA; de Boer PA
Department of Molecular Biology and Microbiology, Case Western Reserve University School of Medicine, Cleveland, Ohio 44106-4960, USA.
Cell (UNITED STATES) Jan 24 1997, 88 (2) p175-85, ISSN 0092-8674 Journal Code: CQ4 Languages: ENGLISH Document type: JOURNAL ARTICLE
FtsZ is a soluble, tubulin-like GTPase that forms a membrane-associated ring at the division site of bacterial cells. While this ring is thought to drive cell constriction, it is not well understood how it is assembled or how it affects cell wall invagination. Here we report that FtsZ binds directly to a novel integral inner membrane protein in E. coli that we call ZipA. We present genetic and morphological evidence indicating that this interaction is required for cell division, and show that a fluorescent ZipA-Gfp fusion protein is located in a ring structure at the division site, both before and during cell wall invagination. ZipA is an essential component of the division machinery, and, by binding to both FtsZ and the cytoplasmic membrane, is likely to be directly involved in the assembly and/or function of the FtsZ ring.

1/7/7 DIALOG(R)File 155:MEDLINE(R) (c) format only 1999 Dialog Corporation. All rts. reserv.
08937388 97160837
Phosphorylation of residue 131 of HIV-1 matrix is not required for macrophage infection.
Freed EO; Englund G; Maldarelli F; Martin MA
Laboratory of Molecular Microbiology, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, MD 20892-0460, USA.
Cell (UNITED STATES) Jan 24 1997, 88 (2) p171-3; discussion 173-4, ISSN 0092-8674 Journal Code: CQ4 Languages: ENGLISH Document type: JOURNAL ARTICLE

1/6/8 07202686 93069402
Cutaneous leishmaniasis in western Venezuela caused by infection with Leishmania venezuelensis and L. braziliensis variants. Mar-Apr 1992

29jun99 09:15:38 User208600 Session D1221.3

File 5:Biosis Previews(R) 1969-1999/Jun W3 (c) 1999 BIOSIS
S1 7 ZIPA OR ZIP(W)A

1/6/1 11899507 BIOSIS NO.: 199900145616
Localization of FtsL to the Escherichia coli septal ring. 1999

1/6/2 11850708 BIOSIS NO.: 199900096817
Septal localization of FtsQ, an essential cell division protein in Escherichia coli. 1999

1/6/3 11850071 BIOSIS NO.: 199900096180
Recruitment of ZipA to the septal ring of Escherichia coli is dependent on FtsZ and independent of FtsA. 1999

1/6/4 11647103 BIOSIS NO.: 199800428834
Localization and function of early cell division proteins in filamentous Escherichia coli cells lacking phosphatidylethanolamine. 1998

1/6/5 11549424 BIOSIS NO.: 199800330756
Localization of FtsZ, FtsA and ZipA division proteins in filamentous Escherichia coli cells lacking phosphatidylethanolamine. 1998

1/6/6 10989434 BIOSIS NO.: 199799610579
Interaction of protein kinase C zeta with ZIP, a novel protein kinase C-binding protein. 1997

1/6/7 10782974 BIOSIS NO.: 199799404119
Direct binding of FtsZ to ZipA, an essential component of the septal ring structure that mediates cell division in E. coli. 1997

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FILE COVERS 1967 - 29 Jun 1999 VOL 131 ISS 1
FILE LAST UPDATED: 29 Jun 1999 (19990629/ED)
L1 12 ZIPA OR ZIP (W)A

L1 ANSWER 1 OF 12 CAPLUS COPYRIGHT 1999 ACS
TI ***ZipA*** is a MAP-Tau homolog and is essential for structural integrity of the cytokinetic FtsZ ring during bacterial cell division

L1 ANSWER 2 OF 12 CAPLUS COPYRIGHT 1999 ACS
TI Recruitment of ***ZipA*** to the division site by interaction with FtsZ

L1 ANSWER 3 OF 12 CAPLUS COPYRIGHT 1999 ACS
TI Localization of FtsL to the Escherichia coli septal ring

L1 ANSWER 4 OF 12 CAPLUS COPYRIGHT 1999 ACS
TI Septal localization of FtsQ, an essential cell division protein in Escherichia coli

L1 ANSWER 5 OF 12 CAPLUS COPYRIGHT 1999 ACS
TI Recruitment of ***ZipA*** to the septal ring of Escherichia coli is dependent on FtsZ and independent of FtsA

L1 ANSWER 6 OF 12 CAPLUS COPYRIGHT 1999 ACS
TI Localization and function of early cell division proteins in filamentous Escherichia coli cells lacking phosphatidylethanolamine

L1 ANSWER 7 OF 12 CAPLUS COPYRIGHT 1999 ACS
TI Molecular biology of cation transport in plants

L1 ANSWER 8 OF 12 CAPLUS COPYRIGHT 1999 ACS
TI Screening antimicrobials in a cell-free ***ZipA*** protein-FtsZ protein binding system

L1 ANSWER 9 OF 12 CAPLUS COPYRIGHT 1999 ACS
TI Interaction of protein kinase C .zeta. with ***ZIP*** , ***a*** novel protein kinase C-binding protein

L1 ANSWER 10 OF 12 CAPLUS COPYRIGHT 1999 ACS
TI Direct binding of FtsZ to ***ZipA*** , an essential component of the septal ring structure that mediates cell division in E. coli

L1 ANSWER 11 OF 12 CAPLUS COPYRIGHT 1999 ACS
TI Cyclic adenosine 3',5'-monophosphate response element binding protein (CREB) and related transcription-activating deoxyribonucleic acid-binding proteins

L1 ANSWER 12 OF 12 CAPLUS COPYRIGHT 1999 ACS
TI A method for the preparation of multicolor presentation slides

L1 ANSWER 1 OF 12 CAPLUS COPYRIGHT 1999 ACS AN 1999:336208 CAPLUS
TI ***ZipA*** is a MAP-Tau homolog and is essential for structural integrity of the cytokinetic FtsZ ring during bacterial cell division
AU RayChaudhuri, Debabrata
CS Department of Molecular Biology and Microbiology, Tufts University School of Medicine, Boston, MA, 02111, USA
SO EMBO J. (1999), 18(9), 2372-2383 CODEN: EMJODG; ISSN: 0261-4189 PB Oxford University Press DT Journal LA English
AB The first visible event in prokaryotic cell division is the assembly of the sol., tubulin-like FtsZ GTPase into a membrane-assocd. cytokinetic ring that defines the division plane in bacterial and archaeal cells. In the temp.-sensitive ftsZ84 mutant of Escherichia coli, this ring assembly is impaired at the restrictive temp. causing lethal cell filamentation. Here I present genetic and morphol. evidence that a 2-fold higher dosage of the division gene ***zipA*** suppresses thermosensitivity of the ftsZ84 mutant by stabilizing the labile FtsZ84 ring structure in vivo. I demonstrate that purified ***ZipA*** promotes and stabilizes protofilament assembly of both FtsZ and FtsZ84 in vitro and cosediments with the protofilaments. Furthermore, ***ZipA*** organizes FtsZ protofilaments into arrays of long bundles or sheets that probably represent the physiol. organization of the FtsZ ring in bacterial cells. The N-terminal cytoplasmic domain of membrane-anchored ***ZipA*** contains sequence elements that resemble the microtubule-binding signature motifs in eukaryotic Tau, MAP2 and MAP4 proteins. It is postulated that the MAP-Tau-homologous motifs in ***ZipA*** mediate its binding to FtsZ, and that FtsZ- ***ZipA*** interaction represents an ancient prototype of the protein-protein interaction that enables MAPs to suppress microtubule catastrophe and/or to promote rescue.

L1 ANSWER 8 OF 12 CAPLUS COPYRIGHT 1999 ACS AN 1997:776281 CAPLUS DN 128:59179
TI Screening antimicrobials in a cell-free ***ZipA*** protein-FtsZ protein binding system
IN De Boer, Piet A. J.; Hale, Cynthia A.
PA Case Western Reserve University, USA
SO PCT Int. Appl., 54 pp. CODEN: PIXXD2 DT Patent LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE
PI WO 9744481 A1 19971127 WO 97-US8703 19970521 W: AU, CA, JP RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE CA 2254853 AA 19971127 CA 97-2254853 19970521 AU 9730760 A1 19971209 AU 97-30760 19970521 EP 912758 A1 19990506 EP 97-925694 19970521 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI
PRAI US 96-651818 19960521 WO 97-US8703 19970521
AB A method for screening compds. for antimicrobial activity is described that utilizes bacterial protein-protein binding in vitro. Thus, ***ZipA*** protein was identified that interacts with the cell division protein FtsZ. The ***ZipA*** protein was isolated by expression cloning from a .lambda.gt11 library of Escherichia coli. ***ZipA*** is an attractive basis for antimicrobial compd. screens for several reasons: (1) ***ZipA*** is essential; (2) ***ZipA*** binds to FtsZ even when either of the 2 proteins is partially denatured); (3) sol. fragments and derivs. of ***ZipA*** retain the ability to bind FtsZ; (4) HFTK- ***ZipA*** will bind to native FtsZ as well as immobilized FtsZ; and (5) labeled derivs of ***ZipA*** in which a portion of the protein is fused to green fluorescent protein from Aequorea victoria retain the ability to bind FtsZ. The method may be performed using immobilized elements and the immobilization may be carried out using a variety of immobilization means e.g., columns, beads, adsorbents, nitrocellulose paper, etc.) in order to screen large libraries of compds.

L1 ANSWER 9 OF 12 CAPLUS COPYRIGHT 1999 ACS AN 1997:394473 CAPLUS DN 127:118880
TI Interaction of protein kinase C .zeta. with ***ZIP*** , ***a*** novel protein kinase C-binding protein
AU Puls, Axel; Schmidt, Sandra; Grawe, Ferdi; Stabel, Silvia
CS Max-Delbruck-Laboratorium, Max-Planck-Gesellschaft, Cologne, D-50829, Germany
SO Proc. Natl. Acad. Sci. U. S. A. (1997), 94(12), 6191-6196 CODEN: PNASA6; ISSN: 0027-8424 PB National Academy of Sciences DT Journal LA English
AB The atypical protein kinase C (PKC) member PKC-.zeta. has been implicated in several signal transduction pathways regulating differentiation, proliferation or apoptosis of mammalian cells. We report here the identification of a cytoplasmic and membrane-assocd. protein that we name zeta-interacting protein (ZIP) and that interacts with the regulatory domain of PKC-.zeta. but not classic PKCs. The structural motifs in ZIP include a recently defined ZZ zinc finger as a potential protein binding module, two PEST sequences and a novel putative protein binding motif with the consensus sequence YXDEDX5SDEE/D. ZIP binds to the pseudosubstrate region in the regulatory domain of PKC-.zeta. and is phosphorylated by PKC-.zeta. in vitro. ZIP dimerizes via the same region that promotes binding to PKC-.zeta. suggesting a competitive situation between ZIP:ZIP and ZIP:PKC-.zeta. complexes. In the absence of PKC-.zeta. proper subcellular localization of ZIP is impaired and we show that

intracellular targeting of ZIP is dependent on a balanced interaction with PKC-.zeta.. Taking into account the recent isolation of ZIP by others in different contexts we propose that ZIP may function as a scaffold protein linking PKC-.zeta. to protein tyrosine kinases and cytokine receptors.

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L1 7 ZIPA OR ZIP(W)A

1. 5,571,860, Nov. 5, 1996, High performance PVOH stablilized EVA adhesives; Pravin K. Kukkala, et al., 524/503, 271, 292, 297, 386, 387, 388, 427, 446, 447, 449, 459; 526/202 [IMAGE AVAILABLE]

2. 5,297,692, Mar. 29, 1994, Cover retainer means; Leroy M. Kronmiller, 220/318; 292/258, 288 [IMAGE AVAILABLE]

3. 5,129,179, Jul. 14, 1992, Tree trunk holding means; Leroy M. Kronmiller, 47/42, 44 [IMAGE AVAILABLE]

4. 4,939,438, Jul. 3, 1990, Relay control assembly; Richard J. Burtzlaff, et al., 318/564, 434, 471; 361/28, 31 [IMAGE AVAILABLE]

5. 4,918,840, Apr. 24, 1990, Footwear fastener; Elisa Nardulli, 36/50.1, 51, 52 [IMAGE AVAILABLE]

6. 4,911,960, Mar. 27, 1990, Laminating adhesive for film/paper microwavable products; Paul R. Mudge, et al., 428/34.3; 383/123; 426/111, 113, 234; 428/475.2, 481, 514, 516, 518; 524/502, 808 [IMAGE AVAILABLE]

7. 3,891,305, Jun. 24, 1975, Apparatus for simulating a three-dimensional image by use of plural image producing surfaces; Lester Fader, 359/478 [IMAGE AVAILABLE]

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File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec (c) 1998 Inst for Sci Info
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E9 2 CR=BYRNE CR, 1997, V1356, P131, BBA-MOL CELL RES
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E11 1 CR=BYRNE D, COMPLEXITY THEORY SO
E12 2 CR=BYRNE D, IN PRESS

S1 7 E3-E5
S2 86 CR="BYRNE CR, 1988, V170, P3150, J BACTERIOL"
S3 93 S1 OR S2
S4 554096 BIND?
S5 37 S3 AND S4
S6 15 ZIPA OR ZIP(W)A
S7 1 S3 AND S6
S8 412793 INTEGRAL OR MEMBRANE
S9 12 S3 AND S8
S10 19096 SEPTA?
S11 1 S3 AND S10
S12 131663 SCREEN?
S13 1 S12 AND S3

5/6/1 (Item 1 from file: 34) 07151705 Genuine Article#: 129EN Number of References: 37
Title: Three-dimensional structure of O-acetylserine sulfhydrylase from Salmonella typhimurium (ABSTRACT AVAILABLE) Publication date: 19981016

5/6/2 (Item 2 from file: 34) 06961721 Genuine Article#: 108MF Number of References: 37

Title: Trypsin cleavage of human cystathionine beta-synthase into an evolutionarily conserved active core: Structural and functional consequences (ABSTRACT AVAILABLE) Publication date: 19980715

5/6/3 (Item 3 from file: 34) 05534498 Genuine Article#: WE970 Number of References: 46
Title: Direct binding of FtsZ to ZipA, an essential component of the septal ring structure that mediates cell division in E-coli (ABSTRACT AVAILABLE) Publication date: 19970124

5/6/4 (Item 4 from file: 34) 05281618 Genuine Article#: VM555 Number of References: 36
Title: A CHANGE IN THE INTERNAL ALDIMINE LYSINE (K-42) IN O-ACETYLSERINE SULFHYDRYLASE TO ALANINE INDICATES ITS IMPORTANCE IN TRANSIMINATION AND AS A GENERAL BASE CATALYST (Abstract Available)

5/6/5 (Item 5 from file: 34) 05252546 Genuine Article#: VL327 Number of References: 38
Title: REGULATION OF SULFATE ASSIMILATION IN SACCHAROMYCES-CEREVISIAE (Abstract Available)

5/6/6 (Item 6 from file: 34) 04966407 Genuine Article#: UW352 Number of References: 62
Title: STUDIES ON THE SYNTHESIS OF THE FE-S CLUSTER OF DIHYDROXY-ACID DEHYDRATASE IN ESCHERICHIA-COLI CRUDE EXTRACT - ISOLATION OF O-ACETYLSERINE SULFHYDRYLASE-A AND SULFHYDRYLASE-B AND BETA-CYSTATHIONASE BASED ON THEIR ABILITY TO MOBILIZE SULFUR FROM CYSTEINE AND TO PARTICIPATE IN FE-S CLUSTER SYNTHESIS (Abstract Available)

5/6/7 (Item 7 from file: 34) 04942678 Genuine Article#: UU195 Number of References: 25
Title: TRYPTOPHAN LUMINESCENCE AS A PROBE OF ENZYME CONFORMATION ALONG THE O-ACETYLSERINE SULFHYDRYLASE REACTION PATHWAY (Abstract Available)

5/6/8 (Item 8 from file: 34) 04872512 Genuine Article#: UN501 Number of References: 23
Title: KINETICS AND MECHANISM OF MUTANT O-ACETYLSERINE SULFHYDRYLASE-A (C43S) FROM SALMONELLA-TYPHIMURIUM LT-2 (Abstract Available)

5/6/9 (Item 9 from file: 34) 04687314 Genuine Article#: UB371 Number of References: 24
Title: ISOLATION OF A GENE ENCODING CYSTEINE SYNTHASE FROM FLAVOBACTERIUM K-3-15 (Abstract Available)

5/6/10 (Item 10 from file: 34) 04608018 Genuine Article#: TW740 Number of References: 49
Title: SPINACH CHLOROPLAST O-ACETYLSERINE (THIOL)-LYASE EXHIBITS 2 CATALYTICALLY NONEQUIVALENT PYRIDOXAL-5'-PHOSPHATE-CONTAINING ACTIVE-SITES (Abstract Available)

5/6/11 (Item 11 from file: 34) 04560247 Genuine Article#: TT476 Number of References: 16
Title: SPECTRAL STUDIES OF CONFORMATIONAL CHANGE AT THE ACTIVE-SITE OF MUTANT O-ACETYLSERINE SULFHYDRYLASE-A (C43S) (Abstract Available)

5/6/12 (Item 12 from file: 34) 04350880 Genuine Article#: RX235 Number of References: 27
Title: ACID-BASE CHEMICAL MECHANISM OF O-ACETYLSERINE SULFHYDRYLASE-A AND SULFHYDRYLASE-B FROM PH STUDIES (Abstract Available)

5/6/13 (Item 13 from file: 34) 04350861 Genuine Article#: RX235 Number of References: 31
Title: IDENTIFICATION AND SPECTRAL CHARACTERIZATION OF THE EXTERNAL ALDIMINE OF THE O-ACETYLSERINE SULFHYDRYLASE REACTION (Abstract Available)

5/6/14 (Item 14 from file: 34) 03835880 Genuine Article#: QK084 Number of References: 123
Title: NOVEL PROTEINS OF THE PHOSPHOTRANSFERASE SYSTEM ENCODED WITHIN THE RPON OPERON OF ESCHERICHIA-COLI - ENZYME IIA(NTR) AFFECTS GROWTH ON ORGANIC NITROGEN AND THE CONDITIONAL LETHALITY OF AN ERA(TS) MUTANT (Abstract Available)

5/6/15 (Item 15 from file: 34) 03810417 Genuine Article#: QH590 Number of References: 49
Title: LOCATION OF THE CATALYTIC SITE FOR PHOSPHOENOLPYRUVATE FORMATION WITHIN THE PRIMARY STRUCTURE OF CLOSTRIDIUM-SYMBIOSUM PYRUVATE PHOSPHATE DIKINASE .2. SITE-DIRECTED MUTAGENESIS OF AN ESSENTIAL ARGININE CONTAINED WITHIN AN APPARENT P-LOOP (Abstract Available)

5/6/16 (Item 16 from file: 34) 03784839 Genuine Article#: QF535 Number of References: 37
Title: EFFECT OF THE FRUR REGULATOR ON TRANSCRIPTION OF THE PTS OPERON IN ESCHERICHIA-COLI (Abstract Available)

5/6/17 (Item 17 from file: 34) 03562448 Genuine Article#: PN138 Number of References: 31
Title: CHARACTERIZATION OF A CYSTATHIONINE BETA-SYNTHASE ALLELE WITH 3 MUTATIONS IN CIS IN A PATIENT WITH B-6 NONRESPONSIVE HOMOCYSTINURIA (Abstract Available)

5/6/18 (Item 18 from file: 34) 03431478 Genuine Article#: PE694 Number of References: 45
Title: RESIDUE THREONINE-149 OF THE SALMONELLA-TYPHIMURIUM CYSB TRANSCRIPTION ACTIVATOR - MUTATIONS CAUSING CONSTITUTIVE EXPRESSION OF POSITIVELY REGULATED GENES OF THE CYSTEINE REGULON (Abstract Available)

5/6/19 (Item 19 from file: 34) 03252520 Genuine Article#: NQ764 Number of References: 65
Title: STOICHIOMETRY OF BINDING OF CYSB TO THE CYSJIH CYSK, AND CYSP PROMOTER REGIONS OF SALMONELLA-TYPHIMURIUM (Abstract Available)

5/6/20 (Item 20 from file: 34) 03089286 Genuine Article#: NC497 Number of References: 32
Title: PURIFICATION AND PROPERTIES OF SACCHAROMYCES-CEREVISIAE CYSTATHIONINE BETA-SYNTHASE (Abstract Available)

5/6/21 (Item 21 from file: 34) 02995679 Genuine Article#: MY842 Number of References: 49
Title: PRODUCT BINDING TO THE ALPHA-CARBOXYL SUBSITE RESULTS IN A CONFORMATIONAL CHANGE AT THE ACTIVE-SITE OF O-ACETYLSERINE SULFHYDRYLASE-A - EVIDENCE FROM FLUORESCENCE SPECTROSCOPY (Abstract Available)

5/6/22 (Item 22 from file: 34) 02807343 Genuine Article#: ME987 Number of References: 46
Title: TOBACCO PLANTS TRANSFORMED WITH THE O-ACETYLSERINE (THIOL) LYASE GENE OF WHEAT ARE RESISTANT TO TOXIC LEVELS OF HYDROGEN-SULFIDE GAS (Abstract Available)

5/6/23 (Item 23 from file: 34) 02679909 Genuine Article#: LW441 Number of References: 553
Title: PHOSPHOENOLPYRUVATE - CARBOHYDRATE PHOSPHOTRANSFERASE SYSTEMS OF BACTERIA (Abstract Available)

5/6/24 (Item 24 from file: 34) 02639667 Genuine Article#: LR968 Number of References: 31
Title: COMMON SEQUENCE MOTIFS CODING FOR HIGHER-PLANT AND PROKARYOTIC O-ACETYLSERINE (THIOL)-LYASES - BACTERIAL ORIGIN OF A CHLOROPLAST TRANSIT PEPTIDE (Abstract Available)

5/6/25 (Item 25 from file: 34) 02584179 Genuine Article#: LN618 Number of References: 20
Title: KINETIC MECHANISMS OF THE A-ISOZYME AND B-ISOZYME OF O-ACETYLSERINE SULFHYDRYLASE FROM SALMONELLA-TYPHIMURIUM LT-2 USING THE NATURAL AND ALTERNATIVE REACTANTS (Abstract Available)

5/6/26 (Item 26 from file: 34) 02380999 Genuine Article#: KX756 Number of References: 216
Title: COMPILATION OF ESCHERICHIA-COLI MESSENGER-RNA PROMOTER SEQUENCES (Abstract Available)

5/6/27 (Item 27 from file: 34) 02278743 Genuine Article#: KQ123 Number of References: 41
Title: INTRODUCTION AND EXPRESSION OF THE BACTERIAL GENES CYSE AND CYSK IN EUKARYOTIC CELLS (Abstract Available)

5/6/28 (Item 28 from file: 34) 02180330 Genuine Article#: KG984 Number of References: 46
Title: O-ACETYLSERINE(THIOL)LYASE FROM SPINACH (SPINACIA-OLERACEA L) LEAF - CDNA CLONING, CHARACTERIZATION, AND OVEREXPRESSION IN ESCHERICHIA-COLI OF THE CHLOROPLAST ISOFORM

5/6/29 (Item 29 from file: 34) 02109920 Genuine Article#: KB098 Number of References: 34
Title: MUTAGENESIS AND REGULATION OF THE CYSJ PROMOTER OF ESCHERICHIA-COLI K-12 (Abstract Available)

5/6/30 (Item 30 from file: 34) 01990284 Genuine Article#: JT066 Number of References: 45
Title: THE MOLECULAR-BASIS FOR POSITIVE REGULATION OF CYS PROMOTERS IN SALMONELLA-TYPHIMURIUM AND ESCHERICHIA-COLI (Abstract Available)

5/6/31 (Item 31 from file: 34) 01875433 Genuine Article#: JH989 Number of References: 46
Title: POSITIVE REGULATION OF THE EXPRESSION OF THE ESCHERICHIA-COLI PTS OPERON - IDENTIFICATION OF THE REGULATORY REGIONS

5/6/32 (Item 32 from file: 34) 01736581 Genuine Article#: HX169 Number of References: 28
Title: RAT CYSTATHIONINE BETA-SYNTHASE GENE ORGANIZATION AND ALTERNATIVE SPLICING (Abstract Available)

5/6/33 (Item 33 from file: 34) 01734118 Genuine Article#: HW518 Number of References: 200
Title: OPEN QUESTIONS ABOUT SULFUR METABOLISM IN PLANTS

5/6/34 (Item 34 from file: 34) 01217747 Genuine Article#: GF098 Number of References: 53
Title: THE CYSP PROMOTER OF SALMONELLA-TYPHIMURIUM - CHARACTERIZATION OF 2 BINDING-SITES FOR CYSB PROTEIN, STUDIES OF INVIVO TRANSCRIPTION INITIATION, AND DEMONSTRATION OF THE ANTI-INDUCER EFFECTS OF THIOSULFATE (Abstract Available)

5/6/35 (Item 35 from file: 34) 00744123 Genuine Article#: ET446 Number of References: 37
Title: POSITIVE REGULATION OF THE PTS OPERON OF ESCHERICHIA-COLI - GENETIC-EVIDENCE FOR A SIGNAL TRANSDUCTION MECHANISM (Abstract Available)

5/6/36 (Item 36 from file: 34) 00317754 Genuine Article#: DG186 Number of References: 48
Title: SULFATE AND THIOSULFATE TRANSPORT IN ESCHERICHIA-COLI K-12 - IDENTIFICATION OF A GENE ENCODING A NOVEL PROTEIN INVOLVED IN THIOSULFATE BINDING

5/6/37 (Item 1 from file: 434) 09228577 Genuine Article#: R6313 Number of References: 46
Title: MOLECULAR CHARACTERIZATION OF THE CYSJIH PROMOTERS OF SALMONELLA-TYPHIMURIUM AND ESCHERICHIA-COLI - REGULATION BY CYSB PROTEIN AND N-ACETYL-L-SERINE

5/7/3 (Item 3 from file: 34) DIALOG(R)File 34:SciSearch(R) Cited Ref Sci (c) 1999 Inst for Sci Info. All rts. reserv.
05534498 Genuine Article#: WE970 Number of References: 46
Title: Direct binding of FtsZ to ZipA, an essential component of the septal ring structure that mediates cell division in E-coli
Author(s): Hale CA (REPRINT) ; deBoer PAJ
Corporate Source: CASE WESTERN RESERVE UNIV,SCH MED, DEPT MOL BIOL & MICROBIOL, 10900 EUCLID AVE/CLEVELAND//OH/44106 (REPRINT)
Journal: CELL, 1997, V88, N2 (JAN 24), P175-185 ISSN: 0092-8674 Publication date: 19970124 Publisher: CELL PRESS, 1050 MASSACHUSETTES AVE, CIRCULATION DEPT, CAMBRIDGE, MA 02138
Language: English Document Type: ARTICLE
Abstract: FtsZ is a soluble, tubulin-like GTPase that forms a membrane-associated ring at the division site of bacterial cells. While this ring is thought to drive cell constriction, it is not well understood how it is assembled or how it affects cell wall invagination. Here we report that FtsZ binds directly to a novel integral inner-membrane protein in E. coli that we call ZipA. We present genetic and morphological evidence indicating that this interaction is required for cell division, and show that a fluorescent ZipA-Gfp fusion protein is located in a ring structure at the division site, both before and during cell wall invagination. ZipA is an essential component of the division machinery, and, by binding to both FtsZ and the cytoplasmic membrane, is likely to be directly involved in the assembly and/or function of the FtsZ ring.

5/7/27 (Item 27 from file: 34) DIALOG(R)File 34:SciSearch(R) Cited Ref Sci (c) 1999 Inst for Sci Info. All rts. reserv.
02278743 Genuine Article#: KQ123 Number of References: 41
Title: INTRODUCTION AND EXPRESSION OF THE BACTERIAL GENES CYSE AND CYSK IN EUKARYOTIC CELLS
Author(s): LEISH Z; BYRNE CR; HUNT CL; WARD KA
Corporate Source: CSIRO,DIV ANIM PROD,POB 239/BLACKTOWN/NSW 2148/AUSTRALIA/
Journal: APPLIED AND ENVIRONMENTAL MICROBIOLOGY, 1993, V59, N3 (MAR), P 892-898 ISSN: 0099-2240 Language: ENGLISH Document Type: ARTICLE
Abstract: The coding sequences of the cysE and cysK genes from Escherichia coli, which encode the enzymes of the cysteine biosynthetic pathway, namely, serine acetyltransferase (EC 2.3.1.30) and O-acetylserine sulfhydrylase (or cysteine synthase [EC 4.2.99.81), were modified for expression in eukaryotic cells and introduced into murine L cells. A number of fusion genes comprising the cysE or cysK coding sequences joined to the promoter of the ovine metallothionein-Ia (MT-Ia) gene and various portions of the ovine growth hormone (GH) gene were prepared. Significant differences in the level of transcription were observed, depending on the amount and arrangement of the GH gene sequences used, the highest levels being obtained with the constructs MTCE10 and MTCK7, which contained only the GH 3' untranslated gene sequences. These two constructs were fused to produce the gene MTCEK1. In this single DNA sequence, each bacterial gene is under independent MT-Ia promoter control. Expression of the cysK sequence in this construct (MT-Ia promoter-cysE-3' GH sequence-MT-Ia promoter-cysK-3' GH sequence) was elevated compared with expression of the cysK gene in MTCK7. However, expression of the cysE sequence in MTCEK1 was only 40% of that of the cysE gene cloned into MTCE10. The double-promoter configuration, which enhances the expression of the second gene in MTCEK1, is proposed as a model for the modification of bacterial genes in general.

9/6/1 (Item 1 from file: 34) 07047720 Genuine Article#: 117LH Number of References: 5045
Title: Linkage map of Escherichia coli K-12, edition 10: The traditional map (ABSTRACT AVAILABLE) Publication date: 19980900

9/6/2 (Item 2 from file: 34) 06961518 Genuine Article#: 108RZ Number of References: 31
Title: Cysteine 42 is important for maintaining an integral active site for O-Acetylserine sulfhydrylase resulting in the stabilization of the alpha-aminoacrylate intermediate (ABSTRACT AVAILABLE) Publication date: 19980728

9/6/3 (Item 3 from file: 34) 05534498 Genuine Article#: WE970 Number of References: 46
Title: Direct binding of FtsZ to ZipA, an essential component of the septal ring structure that mediates cell division in E-coli (ABSTRACT AVAILABLE) Publication date: 19970124

9/6/4 (Item 4 from file: 34) 05207065 Genuine Article#: VH236 Number of References: 57
Title: SIDEROPHORE-MEDIATED IRON UPTAKE IN ALCALIGENES-EUTROPHUS CH34 AND IDENTIFICATION OF ALEB ENCODING THE FERRIC IRON-ALCALIGIN-E RECEPTOR (Abstract Available)

9/6/5 (Item 5 from file: 34) 04608018 Genuine Article#: TW740 Number of References: 49
Title: SPINACH CHLOROPLAST O-ACETYLSERINE (THIOL)-LYASE EXHIBITS 2 CATALYTICALLY NONEQUIVALENT PYRIDOXAL-5'-PHOSPHATE-CONTAINING ACTIVE-SITES (Abstract Available)

9/6/6 (Item 6 from file: 34) 04038196 Genuine Article#: RB443 Number of References: 773
Title: GENETIC-MAP OF SALMONELLA-TYPHIMURIUM, EDITION-VIII (Abstract Available)

9/6/7 (Item 7 from file: 34) 03947314 Genuine Article#: QU413 Number of References: 75
Title: NOVEL PHOSPHOTRANSFERASE SYSTEM GENES REVEALED BY BACTERIAL GENOME ANALYSIS - A GENE-CLUSTER ENCODING A UNIQUE ENZYME-I AND THE PROTEINS OF A FRUCTOSE-LIKE PERMEASE SYSTEM (Abstract Available)

9/6/8 (Item 8 from file: 34) 02995679 Genuine Article#: MY842 Number of References: 49
Title: PRODUCT BINDING TO THE ALPHA-CARBOXYL SUBSITE RESULTS IN A CONFORMATIONAL CHANGE AT THE ACTIVE-SITE OF O-ACETYLSERINE SULFHYDRYLASE-A - EVIDENCE FROM FLUORESCENCE SPECTROSCOPY (Abstract Available)

9/6/9 (Item 9 from file: 34) 02679909 Genuine Article#: LW441 Number of References: 553
Title: PHOSPHOENOLPYRUVATE - CARBOHYDRATE PHOSPHOTRANSFERASE SYSTEMS OF BACTERIA (Abstract Available)

9/6/10 (Item 10 from file: 34) 02380999 Genuine Article#: KX756 Number of References: 216
Title: COMPILATION OF ESCHERICHIA-COLI MESSENGER-RNA PROMOTER SEQUENCES (Abstract Available)

9/6/11 (Item 11 from file: 34) 00317754 Genuine Article#: DG186 Number of References: 48
Title: SULFATE AND THIOSULFATE TRANSPORT IN ESCHERICHIA-COLI K-12 - IDENTIFICATION OF A GENE ENCODING A NOVEL PROTEIN INVOLVED IN THIOSULFATE BINDING

9/6/12 (Item 12 from file: 34) 00040158 Genuine Article#: CH190 Number of References: 19
Title: MUTATIONS IN THE BGLY GENE INCREASE THE FREQUENCY OF SPONTANEOUS DELETIONS IN ESCHERICHIA-COLI K-12

11/6/1 (Item 1 from file: 34) 05534498 Genuine Article#: WE970 Number of References: 46
Title: Direct binding of FtsZ to ZipA, an essential component of the septal ring structure that mediates cell division in E-coli (ABSTRACT AVAILABLE) Publication date: 19970124

13/7/1 (Item 1 from file: 34) DIALOG(R)File 34:SciSearch(R) Cited Ref Sci (c) 1999 Inst for Sci Info. All rts. reserv.
00940842 Genuine Article#: FH157 Number of References: 26
Title: STAPHYLOCOCCAL PHOSPHOENOLPYRUVATE-DEPENDENT PHOSPHOTRANSFERASE SYSTEM - PURIFICATION AND PROTEIN SEQUENCING OF THE STAPHYLOCOCCUS-CARNOSUS HISTIDINE-CONTAINING PROTEIN, AND CLONING AND DNA SEQUENCING OF THE PTSH GENE
Author(s): EISERMANN R; FISCHER R; KESSLER U; NEUBAUER A; HENGSTENBERG W
Corporate Source: RUHR UNIV BOCHUM,DEPT MICROBIOL,NDEF 06/D-4630 BOCHUM//FED REP GER/; RUHR UNIV BOCHUM,DEPT MICROBIOL,NDEF 06/D-4630 BOCHUM//FED REP GER/
Journal: EUROPEAN JOURNAL OF BIOCHEMISTRY, 1991, V197, N1, P9-14 Language: ENGLISH Document Type: ARTICLE
Abstract: The histidine-containing protein (HPr) of the bacterial phosphoenolpyruvate-dependent phosphotransferase system (PTS) was isolated from Staphylococcus carnosus and purified to homogeneity. The protein sequence was determined by Edman degradation of peptides obtained by proteolytic digestion with proteases V8, trypsin and chemical cleavage with BrCN. Furthermore, immunological screening of a chromosomal S. carnosus DNA gene library in pUC19 vector enabled us to isolate S. carnosus HPr-expressing colonies. The nucleotide sequence of this ptsH gene and its flanking regions was determined by the dideoxy-chain-termination technique. Upstream, the 264-bp open reading frame of the ptsH gene is flanked by a putative S. carnosus promoter structure and a putative ptsI gene downstream suggesting that ptsH gene is the first gene in the PTS operon of S. carnosus. Comparison of the amino acid sequence of S. carnosus HPr with the HPr sequence of Staphylococcus aureus (derived from peptide sequencing) showed a high degree of similarity.